

Application No.: 10/015,848  
Attorney Docket No.: GB 010002

**Amendments to the Claims:**

The following listing of claims replaces all prior versions, and listings, of claims in the present application.

**Listing of the Claims:**

Claim 1 (currently amended): A method, comprising:

determining the a value of a signal, in which N previously detected bits (where N is at least 2) of a demodulated bit stream are used to select which one of a plurality of threshold levels against which a current demodulated bit is to be compared in a bit slicer and is to be updated using a the current demodulated bit;

oversampling the demodulated bit stream by a factor M, where M is an integer on the order of 20; and

intermittently integrating at least one sample in the vicinity of the M/2 sample of each of at least 2 bit periods to generate a demodulated signal to be compared with the selected one of the threshold values;

comparing a result of the integrating with the selected threshold level; and

using the result to update the selected threshold value.

Claim 2 (previously presented): A method as claimed in claim 1 further comprising: providing P (where P is at least 2) mean estimators associated with each of the threshold levels, and for a selected one of the plurality of threshold levels obtaining an average value of the associated P mean estimators and using the result as the current selected one of the threshold values.

Claims 3-5 (canceled).

Claim 6 (currently amended): A method as claimed in Claim 1, further comprising: after oversampling the demodulated bit stream, weighting samples of the demodulated bit stream.

Claim 7 (currently amended): A method as claimed in claim 1, further comprising: ~~selecting one of the plurality of preset default threshold values in accordance with a bit sequence formed by the N previously detected bits and a latest detected bit as determined by the bit slicer, obtaining a demodulated signal integrated over at least 2 bit periods, subtracting the demodulated signal from one of a plurality of selected preset default values to produce a current dc offset~~

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estimate, deriving a mean dc offset estimate from the current dc offset estimate and a plurality of preceding dc offset estimates, combining the mean dc offset estimate with a the selected threshold value and applying the combined signal to a threshold input of the bit slicer.

Claim 8 (presently presented): A method as claimed in claim 7, further comprising: subtracting the dc offset estimate from the demodulated signal prior to updating the selected threshold value.

Claim 9 (previously presented): A method as claimed in Claim 7, further comprising: adjusting a responsiveness of the mean dc offset estimate with respect to drift.

Claim 10 (previously presented): A method of effecting dc offset compensation in a receiver having a variable threshold bit slicer, comprising selecting one of a plurality of preset default threshold values in accordance with a bit sequence formed by a current (n) and (n - 1) earlier bit values as determined by the variable threshold bit slicer, obtaining a demodulated signal integrated over at least 2 bit periods, subtracting the demodulated signal from the selected preset default threshold value to produce a current dc offset estimate, deriving a mean dc offset estimate from the current dc offset estimate and a plurality of preceding dc offset estimates, using the mean dc offset estimate to remove an effect of dc offset in determining the value of the demodulated signal; and adjusting a responsiveness of the mean dc offset estimate with respect to drift.

Claim 11 (previously presented): A method as claimed in Claim 10, wherein the mean dc offset estimate is combined with the selected threshold value and in that the combined signal is applied to a threshold input of the bit slicer.

Claim 12 (canceled).

Claim 13 (currently amended): A receiver having a variable threshold slicer, comprising means for deriving a demodulated bit signal stream, means for storing a plurality of threshold values, each of the plurality of threshold values being selectively adjustable, means for selecting one of the plurality of threshold values for comparison with a current bit and for adjustment in response to a sequence of N bits (where N is at least 2) received prior to the current bit and means for using the current bit to update the selected threshold value; and

means for oversampling the demodulated bit stream by a factor M, where M is an integer on the order of 20, and means for intermittently integrating at least one sample in the vicinity of

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the  $M/2$  sample of each of at least 2 bit periods to generate a demodulated signal to be compared with the selected one of the plurality of threshold values;

wherein the means for deriving the demodulated bit stream includes a non-continuous integrate and dump stage for integrating the demodulated bit stream over a predetermined number of bit periods and supplying a result to the variable threshold bit slicer and to the means for updating the selected threshold value.

Claim 14 (canceled):

Claim 15 (canceled):

Claim 16 (currently amended): A receiver as claimed in Claim 13, further comprising: means for weighting the samples obtained by oversampling, and means for integrating the weighted samples to generate the demodulated signal to be compared with the selected one of the plurality of threshold values.

Claim 17 (currently amended): A receiver as claimed in claim 13, further comprising: ~~means for obtaining a demodulated signal integrated over at least 2 bit periods~~, means for subtracting the demodulated signal from a selected preset default value to produce a dc offset estimate, means for deriving a mean dc offset estimate from a current dc offset estimate and a plurality of preceding dc offset estimates, and means for combining the mean dc offset estimate with the selected one of the plurality of threshold values and for applying the combined signal to a threshold input of the variable threshold bit slicer.

Claim 18 (previously presented): A receiver as claimed in Claim 17, further comprising: means for adjusting the responsiveness of the mean dc offset estimate with respect to drift.